



# Tech Info Library

## Apple IIGS: Differences with other Apple II models

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Security: Everyone

Apple IIGS: Differences with other Apple II models

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Some of the features found only on the Apple IIGS:

FEATURE -----	SPECIFICATION -----	DESCRIPTION -----
More powerful microprocessor	65C816	16-bit microprocessor has 24 bit address and 6502 compatibility
Faster Operation	CPU clock speeds of 1 MHz and 2.8 MHz	User can select either of two speeds: 1 MHz speed of 6502 or fast 2.8 MHz.
Memory Expansion	24-bit address bus	Expansion card can expand RAM up to as much as 8 megabytes
Detached Keyboard	78 keys	Separate keyboard includes cursor keys and numeric pad.
Apple DeskTop Bus	Low cost serial I/O	Supports detached keyboard, mouse, and other I/O devices.
RGB Video	R, G, B and sync	Provides both RGB and NTSC video outputs.
40 and 80 column text in color	Text, background, and border colors (RGB only)	Text, background, and border can be any of sixteen colors.
Super Hi-Res color	True 320x200 or 640x200	Improved graphics with up to 16 graphics colors per scan line-up to 256 colors on screen out of 4096.
Desktop user interface	Uses Hi-Res color graphics and mouse	Tool box supports desktop interface with mouse, menus, and windows

Improved Sound	Ensoniq digital sound IC with 32 oscillators	Supports 15 independent voices (GS retains Apple II type sound)
Control Panel	Built-in desk accessory	User may set machine parameters for display, operating speed, serial ports, disk drives, etc.
Enhanced Monitor	Monitor in ROM	Handles 16-bit and 24-bit addresses, assembles and disassembles 65C816 and 6502 instructions, performs 32-bit arithmetic, Low level I/O included
Built-in Clock	Time and Date provided	Has battery back up
Built-in Serial ports	Two standard serial ports	Support modems, printers, and AppleTalk. (User can still use serial card in slot)
Built-in AppleTalk	Uses one serial port	No card required. User can select either serial port to use for AppleTalk.
Built-in Disk port	Disk I/O port using custom chip	User can select built-in driveport, disk interface cards, or both.

Apple II type features found on the Apple IIGS:

FEATURE -----	DESCRIPTION -----	OTHER MODELS -----
6502 Instruction set	65816 has emulation mode for running 6502 programs	All Apple II
128k RAM	Main and aux banks, with language-card & I/O spaces	IIC, 128 IIE
AppleSoft in ROM	Applesoft Basic with lower case and 80-column features	All Apple II
Monitor in ROM	Supports low level I/O and program development	All Apple II
40 and 80 column text	Black & White text displays (color text on GS only)	IIC, IIE with 128k or 80 column card
Lo-Res Color graphics	48x40, 16 colors	All Apple II

Hi-Res Color graphics	280x192, 6 colors	All Apple II
Double Hi-Res Color graphics	560x192, 16 colors	IIc, 128k IIe
Built-in serial ports	Two RS232 compatible ports, IIc (similar) for modem, printer, etc.	
Built-in disk port	Using IWM chip, supports both 5.25", 3.5" drives	IIc
Expansion slots (7)	Slots for peripheral I/O and expansion cards, in addition to built-in ports	II, II Plus, IIe
Game I/O	9-pin and 16-pin connectors for paddles and joysticks	All Apple II (9 pin IIe, IIc)

Apple Technical Communications

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